



IEA ECBCS Annex 46

Subtask D: IT-Toolkit „EnERGo“

Joint Activity

Scope

Development of an electronic interactive sourcebook based on the results of Subtasks A, B and C.

EnERGo

Subtask A

Develop an energy assessment and analysis methodology/protocol and a tool „Energy Assessment Guide for Energy Managers and ESCOs“

Subtask B

Develop a database of “Energy Saving Technologies and Measures for Government Building Retrofits” with examples of best practice

Subtask C

Develop “Best-practice Guidelines for innovative Energy Performance Contracts”

Integrating Subtask D:

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Approach

Central database, which will include all Annex results and will allow users to obtain extensive information according to the individual focus of interest.

The users may chose between analysing design scenarios individually or they may access a broader pool of information on energy saving potentials and requirements by using experiences gained from „best practice“ examples.

Based on the Energy Conccet Adviser (ECA) tool developed in Annex 36: a package of selected analysis tools, that take into account the impact of light, cooling, heating as well as process requirements in buildings on comfort and energy criteria.

The focus will be on interfaces to allow different national calculation engines

It will also include findings from several other IEA Annexes (e.g. Annex 37 „Low Exergy Systems for Heating and Cooling of Buildings“)



IEA ECBCS Annex 36:
Retrofitting in Educational
Buildings - **REDUCE**
Energy Concept Adviser for
Technical Retrofit Measures

Background

The education of a nation's population is the foundation for its improvement and growth in the international community. Educational buildings are the cornerstone of this foundation and they consume a large portion of a nation's non-industrial energy needs. In this international project energy efficient retrofit measures for existing educational buildings are being analysed. The gathered know-how gained in exemplary retrofit projects in the participating countries. Additionally a software tool (the Energy Concept Adviser) is developed that gives advice on energy-efficient retrofit measures to decision makers in administrations.

Project goals:

- To provide tools and guidelines for decision makers and designers to improve the learning and teaching environment of educational facilities through energy- efficient retrofitting.
- To support the decision makers in evaluating the efficiency and acceptance of available concepts.
- To give recommendations on how to operate the retrofitted buildings.
- To promote energy- and cost-efficient retrofit measures.

Project Result:

Energy Concept Adviser



All Reports

- Subtask A: Selection and Analysis of Existing Information
- Subtask B: Case Studies
- Subtask C: Software Development and Analysis Methods

Additional Information

- Additional Case Studies
- Publications

Major Value Added Features

- tools that identify potential areas of improvement (Energy Assessment Protocol) -> Subtask A
- increased number of the energy efficient technologies and measures (database of „Energy Saving Technologies and Measures for Government Building Retrofits“) -> Subtask B
- tailored recommendations on their practical implementation (best practice guidelines for innovative energy performance contracts) -> Subtask C

Extension of Standard Building Datasets

Define key values for a default building

Basic Data

Building Type:

school

Construction year:

1970-1990

Type of Roof:

pitched (heated attic)

Type of basement:

slab on ground

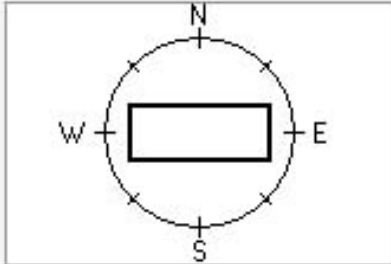
Heated floor area (net) [m²]:

5802,00

Number of storeys:

3

Orientation:




Click on diagram to select orientation

Example buildings

Typology:

multi-storey school

Click on picture to have a look at the case study!



<

Wausau West High School, Wisconsin, USA

>

Consumption of heat energy:

Consumption:

...

kWh/m²a

Consumption of electrical energy:

Consumption:

...

kWh/m²a

Subtask D: IT-Toolkit: Energy Concept Development

